



King County
Department of Permitting
and Environmental Review
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R11 Web date: 11/20/2012

Residential Swimming Pools: Single Family Residential Pools, Hot Tubs or Spas

For alternate formats, call 206-296-6600.

Single family residential swimming pools, hot tubs or spas (herein also referred to as a pool) require a barrier around them which shall be inspected and approved by King County prior to filling with water.

- Items P1 – P14 provide specific requirements based on methods of accessing the pool.
- Items P15 – P20 and EP1 – EP9 apply in general to all pools.

See the following pages for detailed descriptions of these items.

Applicant declares method of protection for the facility as:

- ☐ A fence or wall surrounds the pool complying with P1 – P8.
- ☐ A fence or wall surrounds the pool and the dwelling complying with P1 – P8
and (check one) ☐ P9 ☐ P10 ☐ P11*
- ☐ A fence or wall and a dwelling surround the pool complying with P1 – P8
and (check one) ☐ P9 ☐ P10 ☐ P11*
- ☐ An indoor pool complying with (check one) ☐ P9 ☐ P10 ☐ P11*
- ☐ An aboveground pool complying with (check one) ☐ P12 ☐ P13 ☐ P14*

*If P11 or P14 is checked, please provide adequate details on your plans to demonstrate compliance.

Signature _____ Date _____

For DDES office use only:

Activity / Project _____ Date _____

The following provides the requirements of
ORDINANCE No. 14914, K.C.C. 16.05.110, 2006 IRC Appendix G,
items P1 through P13 as amended by King County.

CONDITIONS FOR SINGLE FAMILY RESIDENTIAL SWIMMING POOLS, HOT TUBS AND SPAS

NOTE: These conditions together with the approved plans detailing compliance with the code shall remain attached together. The approval of plans and specifications does not permit the violation of any section of the International Residential Code or other County ordinances or state laws. Corrections as indicated below, along with the unchanged information shown on the drawings, must be complied with. The approved plans shall not be changed, modified, or altered without authorization from the Building Official.

The approved plans are required to be on the job site for all King County inspections. Section R106.3.1 IRC.

A fence or wall with or without a gate(s) provides the barrier and shall be as follows:

- P1.** The top of the barrier shall be at least 60 inches above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an aboveground pool, the barrier may be at ground level, such as the pool structure, or mounted on the top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches.
- P2.** Openings in the barrier shall not allow passage of a 4-inch-diameter sphere.
- P3.** Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
- P4.** Where the barrier is composed of vertical and horizontal members and the distance between the tops of horizontal members is less than 45 inches the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches in width.
- P5.** Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches or more, spacing between vertical members shall not exceed 4 inches. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches in width.
- P6.** Maximum mesh size for chain link fences shall be a 2.25 inches square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches.
- P7.** Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1.75 inches.
- P8.** Access gates shall comply with the requirements of Items P1 through P7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches from the bottom of the gate the release mechanism and openings shall comply with the following. The release mechanism shall be located on the pool side of the barrier at least 3 inches below the top of the gate, and the gate and barrier shall have no opening greater than 1/2 inch within 18 inches of the release mechanism.

A dwelling unit provides all or part of the barrier and shall be provided as follows:

P9. Doors in a wall that provide direct access to the pool shall be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The alarm shall be listed in accordance with UL 2017. The audible alarm shall activate within 7 seconds and sound continuously for a minimum of 30 seconds after the door and/or its screen, if present, is opened and shall be capable of being heard throughout the house during normal house-hold activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as a touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last not more than 15 seconds. The deactivation switch or switches shall be located at least 54 inches above the threshold of the door; **OR**

P10. The pool shall be equipped with a powered safety cover in compliance with ASTM F1346, **OR**

P11. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the building official, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by items P9 – P10 described above.

An aboveground pool¹, over two feet deep, provides the barrier or the barrier is mounted on top of the pool's structure and the means of access is a ladder or steps they shall be provided as follows:

P12. The ladder or steps shall be capable of being secured, locked or removed to prevent access; **OR**

P13. The ladder or steps shall be surrounded by a barrier which meets the requirements of Items P1 through P11. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch diameter sphere; **OR**

P14. Use other means of protection, as approved by the building official, if such means are not less protective than that afforded by any of the means listed in P9 through P13.

Entrapment protection for swimming pools, hot tubs, and spa suction outlets

P15. General: Suction outlets shall be designed to produce circulation throughout the pool or spa. Single outlet systems, such as automatic vacuum cleaner systems, or other such multiple suction outlets whether isolated by valves or otherwise shall be protected against user entrapment.

P16. Suction fittings: All Pool and Spa suction outlets shall be provided with a cover that conforms with ANSI/ASME A112.19.8M, or a 18" x 23" drain grate or larger, or an approved channel drain system.
Exception: Surface skimmers

P17. Atmospheric vacuum relief system required: All pool and spa single or multiple outlet circulation systems shall be equipped with atmospheric vacuum relief should grate covers located therein become missing or broken. Such vacuum relief systems shall include at least one approved or engineered method of the type specified herein, as follows:

P17.1 Safety vacuum release system conforming to ASME A112.19.17, or

P17.2. An approved gravity drainage system

P18. Dual drain separation. Single or multiple pump circulation systems shall be provided with a minimum of two (2) suction outlets of the approved type. A minimum horizontal or vertical distance of three (3) feet shall separate such outlets. These suction outlets shall be piped so that water is drawn through them simultaneously through a vacuum relief-protected line to the pump or pumps.

P19. Pool cleaner fittings: Where provided, vacuum or pressure cleaner fitting(s) shall be located in an accessible position(s) at least (6) inches and not greater than twelve (12) inches below the minimum operational water level or as an attachment to the skimmer(s).

Footnote:

1. Ornamental pools deeper than 6" and up to 24" shall comply with King County Title 16, section 16.78.010.

2006 WASHINGTON STATE ENERGY CODE

Chapter 5 WAC

Water Heaters, Storage Tanks and Boilers

EP1. Performance Efficiency: All storage water heaters shall meet the requirements of the National Appliance Energy Conservation Act and be so labeled. All electric water heaters in unheated spaces or on concrete floors shall be placed on an incompressible, insulated surface with a minimum thermal resistance of R-10. SEC. 504.2.1

EP2. Insulation: Heat loss from unfired hot-water storage tanks shall be limited to a maximum of 9.6 Btu/h/ft² of external surface area. The design ambient temperature shall be no higher than 65 degrees F. SEC. 504.2.2

EP3. Combination Service Water Heating/Space Heating Boilers: Service water heating equipment shall not be dependent on year round operation of space heating boilers. See section for exceptions. SEC. 504.2.3

EP4. Automatic Controls: Service water heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use. Temperature setting range shall be set to 120°F or 49°C. SEC. 504.3

EP5. Shutdown: A separate switch shall be provided to permit turning off the energy supplied to electric service water heating systems. A separate valve shall be provided to permit turning off the energy supplied to the main burners(s) of all other types of service water heater systems. SEC. 504.4

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EP6. Controls: All pool heaters shall be equipped with readily accessible ON/OFF switch to allow shutting off the operation of the heater without adjusting the thermostat setting. Controls shall be provided to allow the water temperature to be regulated from the maximum design temperature down to 65°F. SEC. 504.5.1

EP7. Pool Covers: Heated swimming pools shall be equipped with a pool cover, approved by the building official. SEC. 504.5.2

EP8. Pump Operation: Circulating hot water systems shall be controlled so that the circulation pump(s) can be conveniently turned off, automatically or manually, when the hot water system is not in operation. SEC. 504.6

EP9. Pipe Insulation: For recirculating and non-recirculating systems, piping shall be thermally insulated in accordance with Section 503.11 and Table 5-12. SEC. 504.7

Check out the Permitting Web site at www.kingcounty.gov/permits